

Ser. No. 09/974,777
Response to Office Action of 11 February 2004
Atty Docket 117163-28

Amendments to the Claims

1. (currently amended) A stent for expansion from a compressed first condition into an expanded second condition in which it holds a vessel in an expanded state in an implantation location, comprising:

a tubular body with a peripheral surface formed from a number of annular support portions that comprise bar elements connected in a longitudinal direction of the stent at an engagement point by way of connecting bars;

wherinc the bar elements of at least a first annular support portion extend in a meander configuration in a peripheral direction of the stent, each bar element consisting of first and second bar element portions that and a number of bar element portions which adjoin at a turning point meet in an angle having a V-shape in the compressed first condition of the stent, characterised in that the first and second bar element portions of the first annular support portion are adapted to extend in the longitudinal direction of the stent curvcdly in an identical concavc or convcx arcuate manner in the longitudinal direction of the stent, and

wherein the first and sccond bar element portions are curved uniformly over an entire length thereof.

2. (original) The stent of claim 1, wherein:

the bar element portions are of a continuously curved configuration.

Claims 3, 4. (cancelled)

5. (previously presented) The stent of claim 1, wherein:

the bar element portions are adapted to keep stresses that occur upon flexural deformation of the stent with respect to the structural axis thereof below a plastic deformation limit of the material upon being moved to the implantation location, by at least one of: being curved in such a way and having a width of the bar elements vary over a length thereof.

6. (previously presented) The stent of claim 2, wherein:

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the bar element portions are adapted to keep stresses that occur upon flexural deformation of the stent with respect to the structural axis thereof below a plastic deformation limit of the material upon being moved to the implantation location, by at least one of: being curved in such a way and having a width of the bar elements vary over a length thereof.

7. (previously presented) The stent of claim 1, wherein:

the bar element portions are adapted to keep stresses that occur upon flexural deformation of the stent with respect to the structural axis thereof below a plastic deformation limit of the material upon being moved to the implantation location, by at least one of: being curved in such a way and having a width of the bar elements vary over a length thereof.

8. (original) The stent of claim 7, further comprising:

a number of adjacent first annular support portions whose bar element portions are curved in the same direction.

9. (original) The stent of claim 6, further comprising:

a number of adjacent first annular support portions whose bar element portions are curved in the same direction.

10. (original) The stent of claim 5, further comprising:

a number of adjacent first annular support portions whose bar element portions are curved in the same direction.

11. (original) The stent of claim 7, further comprising:

a number of adjacent first annular support portions, wherein the direction of curvature of the bar element portions of the annular support portions changes in the longitudinal direction of the stent.

12. (original) The stent of claim 6, further comprising:

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a number of adjacent first annular support portions, wherein the direction of curvature of the bar element portions of the annular support portions changes in the longitudinal direction of the stent.

13. (original) The stent of claim 5, further comprising:

a number of adjacent first annular support portions, wherein the direction of curvature of the bar element portions of the annular support portions changes in the longitudinal direction of the stent.

14. (original) The stent of claim 11, wherein:

the direction of curvature of the bar element portions changes from one annular support portion to another or the annular support portions have bar element portions in pairs with the same direction of curvature.

15. (original) The stent of claim 12, wherein:

the direction of curvature of the bar element portions changes from one annular support portion to another or the annular support portions have bar element portions in pairs with the same direction of curvature.

16. (original) The stent of claim 13, wherein:

the direction of curvature of the bar element portions changes from one annular support portion to another or the annular support portions have bar element portions in pairs with the same direction of curvature.

17. (original) The stent of claim 16, wherein:

the connecting bars compensate for the reduction in length of the bar elements in the longitudinal direction of the stent upon expansion of the stent.

18. (original) The stent of claim 15, wherein:

the connecting bars compensate for the reduction in length of the bar elements in the longitudinal direction of the stent upon expansion of the stent.

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19. (original) The stent of claim 14, wherein:
the connecting bars compensate for the reduction in length of the bar elements in the longitudinal direction of the stent upon expansion of the stent.
20. (original) The stent of claim 10, wherein:
the connecting bars compensate for the reduction in length of the bar elements in the longitudinal direction of the stent upon expansion of the stent.
21. (original) The stent of claim 9, wherein:
the connecting bars compensate for the reduction in length of the bar elements in the longitudinal direction of the stent upon expansion of the stent.
22. (original) The stent of claim 8, wherein:
the connecting bars compensate for the reduction in length of the bar elements in the longitudinal direction of the stent upon expansion of the stent.
23. (original) The stent of claim 1, wherein:
the connecting bars compensate for the reduction in length of the bar elements in the longitudinal direction of the stent upon expansion of the stent.
24. (original) The stent of claim 23, wherein:
the engagement points and the length of the connecting bars are so selected that the reduction in length of the bar elements in the longitudinal direction of the stent upon expansion of the stent is substantially compensated.
25. (original) The stent of claim 22, wherein:
the engagement points and the length of the connecting bars are so selected that the reduction in length of the bar elements in the longitudinal direction of the stent upon expansion of the stent is substantially compensated.

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26. (original) The stent of claim 21, wherein:

the engagement points and the length of the connecting bars are so selected that the reduction in length of the bar elements in the longitudinal direction of the stent upon expansion of the stent is substantially compensated.

27. (original) The stent of claim 20, wherein:

the engagement points and the length of the connecting bars are so selected that the reduction in length of the bar elements in the longitudinal direction of the stent upon expansion of the stent is substantially compensated.

28. (original) The stent of claim 19, wherein:

the engagement points and the length of the connecting bars are so selected that the reduction in length of the bar elements in the longitudinal direction of the stent upon expansion of the stent is substantially compensated.

29. (original) The stent of claim 18, wherein:

the engagement points and the length of the connecting bars are so selected that the reduction in length of the bar elements in the longitudinal direction of the stent upon expansion of the stent is substantially compensated.

30. (original) The stent of claim 17, wherein:

the engagement points and the length of the connecting bars are so selected that the reduction in length of the bar elements in the longitudinal direction of the stent upon expansion of the stent is substantially compensated.

31. (previously presented) The stent of claim 30, wherein:

the bar elements meander in a periodic manner in the peripheral direction of the stent;
and

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in the compressed first condition of the stent, the connecting bars, which are rectilinear, extend between two mutually facing turning points of two adjoining bar elements that are displaced relative to each other by between one and two periods of the bar element meander.

32. (previously presented) The stent of claim 29, wherein:
the bar elements meander in a periodic manner in the peripheral direction of the stent;
and

in the compressed first condition of the stent, the connecting bars, which are rectilinear, extend between two mutually facing turning points of two adjoining bar elements that are displaced relative to each other by between one and two periods of the bar element meander.

33. (previously presented) The stent of claim 28, wherein:
the bar elements meander in a periodic manner in the peripheral direction of the stent;
and
in the compressed first condition of the stent, the connecting bars, which are rectilinear, extend between two mutually facing turning points of two adjoining bar elements that are displaced relative to each other by between one and two periods of the bar element meander.

34. (previously presented) The stent of claim 27, wherein:
the bar elements meander in a periodic manner in the peripheral direction of the stent;
and
in the compressed first condition of the stent, the connecting bars, which are rectilinear, extend between two mutually facing turning points of two adjoining bar elements that are displaced relative to each other by between one and two periods of the bar element meander.

35. (previously presented) The stent of claim 26, wherein:
the bar elements meander in a periodic manner in the peripheral direction of the stent;
and
in the compressed first condition of the stent, the connecting bars, which are rectilinear, extend between two mutually facing turning points of two adjoining bar elements that are displaced relative to each other by between one and two periods of the bar element meander.

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36. (previously presented) The stent of claim 25, wherein:
the bar elements meander in a periodic manner in the peripheral direction of the stent;
and
in the compressed first condition of the stent, the connecting bars, which are rectilinear, extend between two mutually facing turning points of two adjoining bar elements that are displaced relative to each other by between one and two periods of the bar element meander.
37. (previously presented) The stent of claim 24, wherein:
the bar elements meander in a periodic manner in the peripheral direction of the stent;
and
in the compressed first condition of the stent, the connecting bars, which are rectilinear, extend between two mutually facing turning points of two adjoining bar elements that are displaced relative to each other by between one and two periods of the bar element meander.
38. (previously presented) The stent of claim 1, wherein:
the bar elements meander in a periodic manner in the peripheral direction of the stent;
and
in the compressed first condition of the stent, the connecting bars, which are rectilinear, extend between two mutually facing turning points of two adjoining bar elements that are displaced relative to each other by between one and two periods of the bar element meander.
39. (original) The stent of claim 38, wherein:
the connecting bars are adapted to increase the flexibility of the stent.
40. (original) The stent of claim 37, wherein:
the connecting bars are adapted to increase the flexibility of the stent.
41. (original) The stent of claim 36, wherein:
the connecting bars are adapted to increase the flexibility of the stent.

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42. (original) The stent of claim 35, wherein:
the connecting bars are adapted to increase the flexibility of the stent.

43. (original) The stent of claim 34, wherein:
the connecting bars are adapted to increase the flexibility of the stent.

44. (original) The stent of claim 33, wherein:
the connecting bars are adapted to increase the flexibility of the stent.

45. (original) The stent of claim 32, wherein:
the connecting bars are adapted to increase the flexibility of the stent.

46. (original) The stent of claim 31, wherein:
the connecting bars are adapted to increase the flexibility of the stent.

47. (original) The stent of claim 1, wherein:
the connecting bars are adapted to increase the flexibility of the stent.

48. (original) The stent of claim 47, wherein:
the connecting bars are V-shaped.

49. (original) The stent of claim 46, wherein:
the connecting bars are V-shaped.

50. (original) The stent of claim 45, wherein:
the connecting bars are V-shaped.

51. (original) The stent of claim 44, wherein:
the connecting bars are V-shaped.

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52. (original) The stent of claim 43, wherein:
the connecting bars are V-shaped.
53. (original) The stent of claim 42, wherein:
the connecting bars are V-shaped.
54. (original) The stent of claim 41, wherein:
the connecting bars are V-shaped.
55. (original) The stent of claim 40, wherein:
the connecting bars are V-shaped.
56. (original) The stent of claim 39, wherein:
the connecting bars are V-shaped.
57. (original) The stent of claim 56, wherein:
the connecting bars engage a central region of the bar element portions and are adapted to the curvature thereof.
58. (original) The stent of claim 55, wherein:
the connecting bars engage a central region of the bar element portions and are adapted to the curvature thereof.
59. (original) The stent of claim 54, wherein:
the connecting bars engage a central region of the bar element portions and are adapted to the curvature thereof.
60. (original) The stent of claim 53, wherein:
the connecting bars engage a central region of the bar element portions and are adapted to the curvature thereof.

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61. (original) The stent of claim 52, wherein:

the connecting bars engage a central region of the bar element portions and are adapted to the curvature thereof.

62. (original) The stent of claim 51, wherein:

the connecting bars engage a central region of the bar element portions and are adapted to the curvature thereof.

63. (original) The stent of claim 50, wherein:

the connecting bars engage a central region of the bar element portions and are adapted to the curvature thereof.

64. (original) The stent of claim 49, wherein:

the connecting bars engage a central region of the bar element portions and are adapted to the curvature thereof.

65. (original) The stent of claim 48, wherein:

the connecting bars engage a central region of the bar element portions and are adapted to the curvature thereof.

Claim 66. (cancelled)